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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Raphaël Visoz

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EXAMINER

AHN, SUNG S

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/570,053	Applicant(s) VISOZ ET AL.	
	Examiner SUNG AHN	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-14, 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in reply to the Applicant's arguments filed on 27 May 2009.
2. Claims 1-9 and 11-14 have been amended.
3. Claim 16 has been added.
4. Claims 10 and 15 have been canceled.
5. Claims 1-9, 11-14, and 16 are currently pending and have been examined.

Claim Objections

6. Claim 1 is objected to because of the following informalities: Each unit need to be listed in separate line with semicolon after the word "device comprising" to clearly point out the units within the device. Also the word "device comprising" need to be change to "device comprising:" when each unit is listed in separate line. Appropriate correction is required.

7. Claim 1 is objected to because of the following informalities: The word "wherein" clause for specific unit need to be listed in separate line after the unit listing with indented line. Appropriate correction is required.

8. Claim 1 is objected to because of the following informalities: The word "the decision means with the output of the decoder" need to be change to "the decision means along with the output of the decoder" in line 8 to indicate decision mean has two

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inputs (the subtracted data and output of the decoder). Appropriate correction is required.

9. Claim 1 is objected to because of the following informalities: The word "said backward filter" need to be change to "said recursive backward filter" in line 6.

Appropriate correction is required.

10. Claim 1 is objected to because of the following informalities: The word "the backward filter" need to be change to "the recursive backward filter" in line 14.

Appropriate correction is required.

11. Claim 1 is objected to because of the following informalities: The word "the subtractor" need to be change to "the subtraction means" in line 15. Appropriate correction is required.

12. Claims 8 and 9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The system does not further limiting the device as multiple devices such as transmitter, receiver, etc. reside in the system.

13. Claims 11-14 is objected to because of the following informalities: The dependent claims 11-14 is based on independent claim 16. The dependent claim number should followed by independent claim number. Appropriate correction is required

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14. Claim 16 is objected to because of the following informalities: The word "said decoder" need to be change to "said channel decoder" in line 12. Appropriate correction is required.

Claim Rejections - 35 USC § 112

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claims 1-9, 11-14, and 16 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

17. Claim 1 recites the limitation "the output of a decoder" in line 5. There is insufficient antecedent basis for this limitation in the claim.

18. Claim 1 recites the limitation "the output of said backward filter" in line 6. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 1 recites the limitation "the output data of the forward filter" in line 7. There is insufficient antecedent basis for this limitation in the claim.

20. Claim 1 recites the limitation "the subtracted data" in line 7. There is insufficient antecedent basis for this limitation in the claim.

21. Claim 1 recites the limitation "the input of the decision means" in line 8. There is insufficient antecedent basis for this limitation in the claim.

22. Claim 1 recites the limitation "weighted inputs and outputs" in line 10. There is insufficient antecedent basis for this limitation in the claim.

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23. Claim 1 recites the limitation "the output of the subtraction means" in line 11.

There is insufficient antecedent basis for this limitation in the claim.

24. Claim 1 recites the limitation "a decoder" in line 5 and "a channel decoder" in line 9. The examiner consider both the decoder and the channel decoder being same as it is not distinguished in both drawings and specification as only one decoder presented in the device.

25. Claim 2 recites the limitation "a sphere decoder" in line 3. The examiner consider both the sphere decoder and the decoder recited in claim 1 being same as it is not distinguished in both drawings and specification as only one decoder presented in the device.

26. Claim 16 recites the limitation "weighted inputs and outputs" in line 4. There is insufficient antecedent basis for this limitation in the claim.

27. Claim 16 recites the limitation "the data" in line 9. There is insufficient antecedent basis for this limitation in the claim.

28. Claim 16 recites the limitation "probabilistic information" in line 14. The specification indicates that probabilistic information is information generated by decoder interference canceller iterative block (feedback filter) thus cannot be information being transmitted to the channel decoder. The examiner considers the "probabilistic information" being statistics forwarded to the channel decoder as recited in claim 1.

29. Claim 11 recites the limitation "recursive filtering" in line 2. There is insufficient antecedent basis for this limitation in the claim as two types of filtering exist for the decision feedback equalization.

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30. Claims 2-9 and 11-14 are rejected based upon the rejection of independent claims 1 and 16.

Allowable Subject Matter

Claims 1-9, 11-14, and 16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUNG AHN whose telephone number is (571)270-3706. The examiner can normally be reached on Monday-Friday, 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571)272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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